Sexual Practices, Risk Perception and Knowledge Of Sexually Transmitted Disease Risk Among Lesbian and Bisexual Women

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CONTEXT: *Sexually transmitted diseases (STDs) can be spread between female sex partners, probably through the exchange of cervicovaginal fluid and direct mucosal contact. Additionally, lesbians have a high prevalence of bacterial vaginosis, which may represent an STD in this population. However, few data on sexual practices or perceived STD risk among lesbians are available to guide development of interventions aimed at reducing the risk.*

METHODS: *To inform the development of a safer-sex intervention for women who have sex with women, focus group discussions were conducted with 23 lesbian and bisexual women aged 18–29. Topics included sexual practices, STD transmission and prevention, and knowledge about bacterial vaginosis.*

RESULTS: *Although six participants had had bacterial vaginosis and three an STD, women reported little use of preventive measures with female partners (washing hands, using rubber gloves and cleaning sex toys). Participants said that vaginal penetrative practices using sex toys and fingers or hands are common, and that partners frequently share sex toys during a sexual encounter, generally without condoms. Knowledge of potential for STD transmission between women, and of bacterial vaginosis, was limited. Participants viewed use of barrier methods (gloves or condoms) as acceptable, provided that there is a reason (usually STD-focused) to use them and that they are promoted in the context of sexual health and pleasure.*

CONCLUSIONS: *Safer-sex messages aimed at lesbian and bisexual women should emphasize the plausibility of STD transmission between women, personal responsibility and care for partners' well-being; should target common sexual practices; and should promote healthy sexuality.*

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In the United States, where an estimated 2.3 million women describe themselves as lesbian,[1] transmission of common sexually transmitted diseases (STDs)—including trichomoniasis, genital herpes, human papillomavirus and HIV—between female sex partners has been reported.[2] In the few studies that have examined this topic, sexual practices involving digital-vaginal or digital-anal contact, particularly with shared penetrative sex toys, have been frequently reported among female sex partners; such practices present a plausible means for STD transmission, presumably by transfer of infected cervicovaginal secretions or by direct mucosal contact.[3] Although messages pertaining to safer sex between women are available on the Internet and from some community organizations, none have been specifically tested for either acceptability, potential for adherence or efficacy in reducing STD transmission.

Lesbians also have an unusually high prevalence of bacterial vaginosis, the most common cause of vaginal complaints among U.S. women of reproductive age.[4] Bacterial vaginosis results from a shift in the vagina's microbial ecosystem from predominance with human *Lactobacillus* species to overgrowth by bacteria that can cause numerous problems in the upper genital tract (including pelvic inflammatory disease and chorioamnionitis, an inflammation of the membranes surrounding the fetus), as well as increased risks of acquiring gonorrhea and HIV. The etiology of bacterial vaginosis is unknown, although some evidence suggests that having sex with a new male partner and not using condoms play a role;[5] the condition occurs in 5–23% of U.S. women who are sexually active with men.[6] Among 392 lesbian and bisexual women participating in an earlier community-based study in Seattle, we found that 27% had bacterial vaginosis, a prevalence considerably higher than the 23% found among age-matched heterosexual women seen at the local STD clinic during the same time.[7] Women in that study commonly reported sexual practices that transmit vaginal secretions and are strongly associated with bacterial vaginosis, even after other risks are controlled for. Further, 81% of those with bacterial vaginosis, but only 4% of other women, had partners with bacterial vaginosis. These data support the hypothesis that lesbians have a higher bacterial vaginosis prevalence because sexual transfer of vaginal fluid effects transmission of an as-yet undefined causative factor.[8]

An intervention aimed at reducing the sexual transfer of vaginal fluid as a means of reducing the recurrence of bacterial vaginosis and STD transmission in general could emphasize one or more protective strategies, depending on what sexual practices participants engage in. For example, if participants report having digital-vaginal sex, the inter-

vention might emphasize the use of disposable gloves or a topical antimicrobial solution or gel; for women who report using vaginally insertive sex toys, it might stress the importance of using male condoms.

In this article, we describe the results of focus group discussions whose purpose was to inform the development of such an intervention. The objectives of the discussions were to identify specific sexual practices women engage in with other women, determine what protective behaviors these women would find most acceptable and be most likely to practice, and assess knowledge of bacterial vaginosis.

METHODS

Women were recruited for focus group discussions from November 2002 to January 2003 in the greater Seattle metropolitan area, and were eligible if they were 18–30 years old and reported having had sex with another woman in the preceding year. Recruitment materials explained that we were interested in studying why bacterial vaginosis appears common in lesbians and did not mention current or prior symptoms of vaginitis or STD as eligibility criteria. We used purposive sampling techniques to identify potentially eligible women. Advertisements were distributed at local gathering places for lesbian and bisexual women (bookstores, bars and a community center), and were posted on popular local Web sites and in a local alternative newspaper with a well-established gay readership. Women who responded to advertisements were interviewed and screened for eligibility.

We developed a focus group discussion guide to highlight key themes to be explored. Questions covered how common and acceptable women considered a variety of practices among lesbians, especially use of lubricants, use of sex toys and cleaning of sex toys; knowledge and views about sexual practices that could lead to STD transmission between women; practices intended to prevent STD transmission; factors that motivate women to engage in preventive behavior or deter them from doing so; what kind of information about bacterial vaginosis and care related to vaginal health is needed; and how such information should be disseminated. In developing the guide and constructing the recruitment plan, we considered and, where relevant, incorporated published suggestions for valid conduct of qualitative research.[9]

We stratified our sample of four focus groups by age (18–22 and 23–29 years), because we hypothesized that experience with same-sex relationships and behaviors, including exposure to different sex practices and the process of acknowledging same-sex behavior or identity, might differ between the two age-groups. At the beginning of each group, all participants completed a brief questionnaire collecting basic demographic information (age, ethnicity, sexual orientation) and information on STD history, symptoms of vulvovaginitis, and sex toy use and cleaning practices. Focus groups ranged in size from five to eight participants (with an average of six). Refreshments were served, and participants were compensated $20 for their time. Groups lasted about two hours and were facilitated by experienced qualitative researchers. With participants' permission, all groups were audiotaped; additionally, trained observers took notes. Audiotaped discussions were transcribed and digitized by a professional transcription service, and were entered into a word-processing program.

Analysis included methods appropriate for both focus group (textual) and questionnaire (numerical and textual) data. Data files for transcribed textual data were imported into ANSWR 6.4, a software program developed by the Centers for Disease Control and Prevention for the systematic analysis of large qualitative data sets. We then developed a textual data codebook and coded the data using ANSWR tools. Following published approaches,[10] we generated theme-based data reports in ANSWR, which we analyzed for content. Patterns that emerged from the textual data were summarized in a textual data matrix.[11] Illustrative examples were noted and, when appropriate, extracted from the text program and reported directly. Survey data were entered into an ACCESS database and analyzed using SPSS 10.1.4. Standard univariate and bivariate statistical techniques were used to generate descriptive summaries of quantitative information. Because identifying information was not collected for individual women during the focus group discussions, quotes are attributed to women only on the basis of which age-specific session they participated in.

The study was approved by the University of Washington Human Subjects Research Review Committee, and all participants provided written informed consent.

RESULTS

Between December 2002 and January 2003, 23 women participated in four focus groups: 10 women in the two groups for 18–22-year-olds, and 13 in the groups for 23–29-year-olds. Thirteen participants identified themselves as lesbian, and 18 reported having had sex with a male partner. The majority (18) were white; the rest were Asian, black and Hispanic. English was the primary language for all. Women in the older age-group reported a higher average number of female lifetime sex partners than younger women (12.0 vs. 5.7), but did not differ in report of number of male partners (8.3 vs. 8.9). Nearly half of women aged 18–22 reported a history of bacterial vaginosis, as did six participants overall. Contrary to our expectations, evidence of different sexual behaviors was not apparent when women in the two age-groups were compared; however, the study was not designed to detect statistical differences in these outcomes. Three women reported a history of STDs, including trichomoniasis, chlamydia, pelvic inflammatory disease and genital herpes. One-third of participants reported ever using penetrative sex toys, and the most commonly cited way to clean them was with soap and water.

Reported Sexual Practices

Sexual practices were categorized as penetrative or nonpenetrative. Penetrative practices included vaginal or anal use of dildos, vibrators, household objects, food items or

body parts. Nonpenetrative practices included oral-vaginal and oral-anal sex, and direct genital-to-genital contact. For penetrative sexual practices, discussions explored perceived extent of practice, whether penetration is vaginal or anal, objects used, extent of sharing when objects are used, cleaning practices, and use of lubricants and protective barriers. Although the discussions were structured to elicit women's perceptions of practices in the community, participants also described their own experiences.

• *Penetrative sex with sex toys.* Dildos were generally seen as the most common objects used for penetrative sex; all participants were aware of them in this context, and many had used them. Comments such as the following reflect that silicone-based dildos are preferred over those made of other materials (e.g., latex, plastic, glass or wax), largely because of ease of cleaning:

"STDs can only be transferred to men and women.... That's what we're told."

"Well, silicone—the nice thing about silicone is you can actually put it in a dishwasher. I mean it's actually that solid of an object. It's dishwater-safe, which is a high enough water temperature to kill most anything."—*Woman in a group for 23–29-year-olds*

Three general patterns of using sex toys for vaginal sex emerged: no use, use without sharing, and use and sharing under certain conditions. In each focus group, at least one woman indicated that she had never used a sex toy for either vaginal or anal sex. More 18–22-year-olds than older women reported never having used sex toys, noting that they neither had access to these objects nor had encountered a sex partner who had one or used one. Some participants explained that the context of the relationship is an important criterion for sharing sex toys during vaginal sex. Sharing is acceptable if the perceived level of communication between partners is high, the relationship is mutually monogamous and the relationship is long-term (frequently described as being of at least six months' duration). For example:

"Before I talk about sex toys with a partner, I usually talk safe sex, sort out their sexual activities and then ask a partner how they feel about their health....So, I mean, I feel like if I've already communicated with them about that issue, then I'm more likely to share, whether it's monogamous or not."—*Woman in a group for 18–22-year-olds*

"If I was in a monogamous relationship with someone, I would share sex toys with them. And if I wasn't, I wouldn't."—*Woman in a group for 18–22-year-olds*

Participants also felt it is more acceptable to share sex toys if the partners agree that toys will be clean if they are shared. However, some participants clearly stated that they prefer not sharing sex toys, citing concerns about acquiring disease:

"'Cause we're scared of getting a bacterial infection or something—some other kind of disease....That's why I wouldn't share."—*Woman in a group for 18–22-year-olds*

Participants agreed that sharing of vibrators is not common practice, usually because they are difficult to clean, and sharing an unclean vibrator is not acceptable. Strategies to prevent sharing unclean sex toys included wiping them off before use, using a condom and refusing to share. Participants reported a variety of cleaning practices, including washing toys in water alone or in soap and water, putting them in the dishwasher, boiling them and wiping them down with rubbing alcohol. Most agreed that toys should be washed before sex begins. However, all participants concurred that toys are not usually cleaned during sex, and that toys are frequently used in one partner's vagina and then immediately afterward in the other's. Some women felt the idea of cleaning between these types of episodes "took away from the moment." For others, convenience was the reason for not cleaning a toy during sex:

"I'm going to wash it like after I feel like getting up...or wash it the next day, boil it in water or whatever."—*Woman in a group for 18–22-year-olds*

The few women who reported washing toys during sex said that they do so because of circumstances related to vaginal health or symptoms, such as yeast infections, vaginal bleeding or a history of bacterial vaginosis. Penetrative anal sex using a sex toy was acknowledged though viewed as less common, and women neither prefer sharing sex toys for this purpose nor view it as common practice, largely because of concerns about disease transmission.

Participants expressed no consensus regarding the use of condoms with sex toys during penetrative sex. Women agreed that using condoms is advantageous, but said that they are generally not likely to use them. Reasons for not using condoms include the beliefs that interrupting sex to put a condom on a sex toy would be a "big turnoff" by "breaking the mood" of the encounter, would take too much time and would make sex less personal than "naked sex":

"It makes it less personal . . . it's more technical. It's like antiseptic...it makes me think of having sex in the hospital or something."—*Woman in group for 23–29-year-olds*

Notably, several participants in both groups also expressed the perception that lesbians do not need to use condoms because they are not at risk for either pregnancy or STDs. In this context, condoms were regarded as appropriate only for sex with men:

"Because we're girls and the only thing we need to worry about is pregnancy, and we know that STDs can only be transferred to men and women....That's what we're told, that two women are safe....That's what I've heard. So, you just...don't think about it. You don't think about the fact that, Can you transfer it?"—*Woman in group for 23–29-year-olds*

A few women reported using condoms for hygienic reasons when they share sex toys, and see this as a benefit because no cleaning of the toy is required. Several women who had had bacterial vaginosis said that their experience had made them more careful about the way they share toys, including cleaning. Another woman noted that because she is concerned about the effect an STD might have on her efforts to become pregnant, she is careful about sharing toys. At least one woman in each group stated that she uses condoms fairly regularly and has access to them when needed. Despite the obstacles to condom use cited, most participants acknowledged that condom use is a proactive

means of protection and thus is advantageous.

• *Penetrative sex with body parts.* Participants in all groups agreed that penetrative sex using fingers or hands is common practice for both anal and vaginal sex. Hand washing in association with penetrative sex is a common practice, but opinions varied on how this occurs. Participants generally concurred that washing hands immediately after penetrative anal sex is important, but there was no clear consensus as to when or how washing takes place when hands are used for vaginal penetration.

While gloves were widely recognized as a protective barrier, women agreed that they are not commonly used because of inconvenience, discomfort and a perception that only "promiscuous" women use them. Women in the groups for 18–22-year-olds made the following comments:

"It makes it feel like more of a doctor's visit then a sexual thing."

"I think people who are particularly promiscuous will have like a box of gloves by their pillow, but for the most part people don't use them."

"I guess gloves only come to mind with anal sex. Vaginal sex doesn't really enter into it."

Finally, use of topical antimicrobial solutions for hand washing was discussed. Participants uniformly voiced negative opinions about this option, citing concerns that these products are too "harsh" to be used in the context of sex, and that they "kill everything in sight."

• *Use of lubricants during penetrative sex.* All participants agreed that use of manufactured lubricants, including water- and silicone-based materials, is very common. Saliva, partner's vaginal fluid and vegetable shortening were also mentioned. There was considerable discussion regarding what type of lubricant works best with different types of sex toys, and criteria used to choose. For example:

"Silicone has a much different texture on your fingers....It's a lot thinner, and you have to use less of it. Glycerin tends to dry out as you're using it, so you need to use more of it. ...And the water ones...they dry out too fast."—*Woman in a group for 23–29-year-olds*

Some women do not like manufactured lubricants because they are not "natural," or because they believe that bodily secretions (vaginal fluid or saliva) should be adequate. Water-based lubricants are generally preferred because they seem "more natural" and do not degrade silicone sex toys. Participants agreed that lubricants are needed for vaginal use of dildos or for any type of penetrative anal sex. There was less consensus about the need for lubricants when using fingers for vaginal penetrative sex; use seemed contingent upon personal preferences, such as wanting to be "natural," or upon individual characteristics, such as vaginal dryness. For anal sex, silicone-based lubricants are viewed as preferable, since they "last longer." Participants mentioned only water-based lubricant products by brand name, indicating that familiarity with silicone-based products is somewhat lower. Many participants noted concern about water-based lubricants containing glycerin, believing that use of these products can cause yeast infections and, less commonly, other types of infections, including bacterial vaginosis.

Risk of STD Transmission

Participants expressed a general awareness that exchange of body fluids allows for some level of STD transmission, but not all women are clear about risks for specific STDs that might be transmitted through penetrative activities:

"For whatever reason, I feel like the possibility of STD is much more viable if it's from penetration....Penetration happens, and then that toy is used somewhere else."—*Woman in a group for 18–22-year-olds*

As discussed above, participants concurred that women seldom, if ever, clean sex toys during vaginal penetrative sex with the specific intent of reducing the risk of transmitting STDs. The only circumstances when cleaning sex toys was consistently mentioned were after sex, between anal and vaginal sex if both occur during the same sexual encounter, and if a condom is not used:

"I think if it came to a point where I wanted both anal and vaginal penetration, I would either have to have two separate toys or be willing to take a break in the middle to clean it, because I don't think I'd want to take that kind of risk."—*Woman in a group for 18–22-year-olds*

"I sometimes think about [whether using sex toys] contributes to making vaginas and anus just like breeding grounds for disease....Secondary to that, then I do think about, you know, unclean toys or toys that are not at their peak cleanest as, you know, having old bacteria on them, or having something that would be an irritant."—*Woman in a group for 18–22-year-olds*

• *Reasons for using unwashed sex toys.* Participants in all groups discussed logistical circumstances supporting use of unwashed sex toys, particularly related to vaginally sharing a toy within one sexual encounter. They agreed that use of alcohol and drugs contributes to using unwashed toys. One woman remarked:

"I was really careless....I used to have a lot of sex and get like really, really drunk. So I mean that really contributes to, you know, this total disregard for disease and things like that. I mean, I was really, really lucky. During all that time to not have anything happen, but I think a lot of this behavior we're talking about seems to me to kind of sober me."—*Woman in a group for 23–29-year-olds*

Other factors that weighed in favor of participants' sharing unwashed insertive toys were being "in a hurry" to get sex under way and perceiving that a partner is "safe"—that she looks clean and has no apparent health problems:

"I think it all depends....If I see people who are necessarily unsafe, I might be more safe than they are just because I'm trying to take care of myself. But if I'm around people who are really safe, I may lax off on my own just because I know they're safe."—*Woman in a group for 18–22-year-olds*

• *Risk with nonpenetrative sexual practices.* Participants discussed a variety of nonpenetrative sexual practices. Oral-vaginal sex was reported to be common. Oral-anal contact (rimming) was mentioned in all groups, though less fre-

TABLE 1. Types of information lesbian and bisexual women need about bacterial vaginosis, and quotes from lesbian and bisexual women aged 18–29 expressing these needs in focus groups, Seattle, 2002–2003

Information needed	Focus group quote
How bacterial vaginosis is transmitted; why both partners frequently have it	"How did I get it in the first place?… Is it something my partner gave me, or is it something that I got myself?"
Relationship to yeast infection	"Are BV and yeast the same thing, or are they different is one question." "Does one help another? Do they ever cause one another?"
Specific signs and symptoms	"What exactly is it?"
Consequences	"Is it something that could spread like to your ovaries and different things and really hurt you later, like I know chlamydia can?"
Methods of prevention	"How can I prevent myself from giving it?"
Methods of treatment	"Can it go away on its own, [or] does it have to be treated?" "Are you supposed to wash [your vagina] with soap?" "Can you eat yogurt? Will that help?"
Where respectful, knowledgeable treatment can be obtained	"I mean, I've told every health care provider, every doctor I've ever had that I was bisexual, and never—not once— has…any of them… not a single one said anything about safe sex between women. Not once."

quently. Participants expressed concern about transmitting certain types of infections, particularly herpes, cold sores and HIV, during oral-genital sex. As one woman commented:

"I mean, I get nervous about oral sex too...you know, if somebody has a cold sore and they go down on you." –*Woman in a group for 23–29-year-olds*

While participants expressed less concern about becoming infected with an STD through oral sex than through penetrative sex, most stated that infection could occur because of the common practice of switching from oral-genital contact to kissing one's partner on the mouth. Vaginal fluid was specifically identified as being a possible vehicle for disease transmission. Some participants wondered if oral sex might contribute to the risk of acquiring bacterial vaginosis:

"I think you have some sort of bacteria living in your mouth that doesn't agree with your partner's vagina, maybe?"–*Woman in a group for 18–22-year-olds*

For oral sex, a variety of practices related to STD prevention were suggested. Many participants thought they could identify visible signs that indicate if a partner is infected (for example, a sore on the mouth or genitals, presence of yeastlike vaginal discharge or abnormal odor):

"Just kind of check it out and make sure that you don't have any sores, they don't have any sores, you know. Look at their mouths and look at their vaginas. I don't mind if they look and see if I do."–*Woman in a group for 23–29-year-olds*

"But if it's different, like if it's fishy, or if it's a little rotten-smelling, that's not clean. You just stop."–*Woman in a group for 18–22-year-olds*

Participants generally agreed that use of barrier methods, including dental dams and plastic wrap, to cover the genitals is not a common approach to reducing the risk of STD transmission with oral sex.

Direct genital-to-genital contact (body rubbing) was discussed across all groups and was said to be fairly common. Participants recognize that small amounts of vaginal fluid and menstrual blood can be transferred between partners through this activity. However, they hold diverging views about whether this practice contributes to STD acquisition. Women in the older age-group made the following remarks:

"I don't believe that like clit-to-clit and with even a little bit of vaginal fluid that there is as high a risk as, you know, penetration and then out and then on me or near my anus or anything like that."

"If it's clit-to-clit, definitely vaginal fluid could be transmitted."

In three of the four groups, at least one participant expressed the perception that lesbians feel particularly responsible for maintaining awareness of how potential STD transmission might affect their partners' health. This was referred to as "a courtesy to my partner" and as not placing one's partners "in a position where they can get something." One woman described her reaction to discovering her partner had bacterial vaginosis as follows:

"How did she get that in our household? Not that there was a stigma, just like where had I dropped the ball, 'cause we're so careful."–*Woman in a group for 23–29-year-olds*

Information Needs

Although a number of participants reported having had bacterial vaginosis, all strongly agreed that lesbians lack information about it:

"I just don't know that many women that even know what bacterial vaginosis is. I don't even think my mother did."–*Women in a group for 18–22-year-olds*

"Even though I've had it, I still don't know anything about it."–*Woman in a group for 23–29-year-olds*

"I don't know the exact myths,...but number one is that bacterial vaginosis is completely random. You know: You really can't do anything to stop it. You can't do anything wrong, right, better; it just kinda happens to you, and there it is."–*Woman in a group for 23–29-year-olds*

Participants in all groups identified significant gaps in knowledge about several areas of bacterial vaginosis (Table 1). Much of this discussion underscored the perception that providers lack knowledge about STDs and sexual health, including STD risk reduction, in lesbians.

Interestingly, most participants noted that lesbians are unlikely to discuss health-related topics, especially sexual matters and vaginal health, with each other. This perception may help explain why participants in all groups identified health care providers and the relative privacy of a health care visit as appropriate sources of information about STDs. In all groups, participants mentioned that health care providers need to be more sensitive to and better educated about several critical aspects of lesbians' sexual health:

"I've had gynecologists who have been like horrible . . . doctors who have been like totally homophobic and misogynists....I don't think there's a lot of education for health care practitioners, in general....Your queer clients have different needs than your straight clients, sometimes, and you

can't make assumptions about any of your clients' sexuality....They all deserve your respect."–*Woman in a group for 18–22-year-olds*

Participants thought that information about bacterial vaginosis should be disseminated through advertisements or articles in gay and lesbian print media or college and university newspapers, or via pamphlets or wallet-size cards that can be distributed in places that lesbians frequent. While younger participants mentioned gay bars, others noted that some women who have sex with women but do not necessarily identify themselves as lesbians (the term "heteroflexible" was used) frequent straight bars. Other suggestions included Internet postings, use of peer educators, sex education classes, workshops targeted to the lesbian community, sex toy package inserts and telephone hotlines.

DISCUSSION

Our focus group discussions identified several common themes regarding sexual behaviors and STD risk perceptions among women who have sex with women. Notably, participants reported a number of specific misperceptions that likely represent common beliefs among young women who are sexually active with other women. Most striking was participants' perception that the need for STD risk reduction behaviors are primarily a concern for heterosexual women.

Participants also evidenced a very limited knowledge of bacterial vaginosis and of the potential for common STDs, including genital herpes, to be transmitted between women. While such transmission may not occur with the same efficiency as transmission during heterosexual intercourse, it has been well documented.[12] Further, because several participants had experienced either an STD or bacterial vaginosis, these misperceptions are of concern. Given the prevalence of bacterial vaginosis among lesbian and bisexual women, efforts to educate these women about the condition and its consequences are needed. Specifically, counteracting beliefs that emerged in our focus groups entails informing women that bacterial vaginosis and yeast infections are not identical conditions; that bacterial vaginosis can cause vaginal irritation and itching, and may have adverse effects on the upper genital tract and during pregnancy; and that women should not assume they cannot acquire an STD from another woman, and need to seek medical care if they suspect they have an STD.

Our findings have major implications for the design of an intervention to prevent the sexual transmission of vaginal fluid between women. First, because participants generally believed the risk of STD transmission between women to be low, interventions need to include an educational component explaining the evidence that exists to support such a possibility. If this is not adequately conveyed, women may have little motivation to practice protective behaviors. Second, because participants acknowledged a high level of responsibility for not infecting sex partners with an STD if they knew themselves to be infected, interventions should incorporate themes of personal responsibility and care for partners' well-being and health. Third, interventions need to target a range of common sexual practices, including digital-vaginal penetration and use of vaginally insertive sex toys. Fourth, interventions will be most likely to succeed if they emphasize cleanliness, particularly as a part of "natural health," and if they frame the preventive practice in terms of sexual enjoyment and healthy sexuality, rather than in terms of disease. Finally, interventions should emphasize respect for one's body and one's sexual choices. For example, they should avoid messages suggesting that the vagina is unclean or that women smell bad.

Although our findings are limited by the small number of women we enrolled and by the study's geographic setting, they support those of the few other studies conducted in this area. The sexual behaviors discussed by our participants have also been reported elsewhere.[13] Substantial proportions of women who identify themselves as lesbians (53–72%) do not disclose their sexual behavior or orientation to physicians when they seek care, and some disclosures likely elicit negative reactions.[14] Lesbians may underestimate their STD risk, not only from current sex with women, but from previous sex with men. In a survey of 1,086 self-identified lesbians, only 43% of women who reported a clear HIV risk factor perceived themselves to be at risk for HIV acquisition.[15] Similar erroneous assumptions about human papillomavirus acquisition from female partners may place women at risk for delayed detection of cervical cancer if they get infrequent or no Pap smear screening.[16] Finally, lesbians' perceived vulnerability to STDs is likely informed by a complex construct of social messages, perceptions of sex partners and their trustworthiness, and stigma.[17]

Findings from our discussions with lesbian and bisexual women also illuminated other areas that require investigation beyond the scope of our current research. Most significant, many participants raised serious concerns regarding a lack of sensitive health care that includes knowledge specific to lesbian health concerns, and to sexual practices as they relate to risk of STD transmission between women. Health care professionals' attitudes, knowledge and practices in providing care to lesbian and bisexual women should be assessed in focused studies. As others have noted,[18] educating health care providers about these issues requires urgent attention.

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