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HEALTHCARE PROVIDERS: A MISSING LINK IN UNDERSTANDING ACCEPTABILITY OF THE FEMALE CONDOM

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Abstract

Healthcare providers can play a key role in influencing clients to initiate and maintain use of the female condom, an under-used method for HIV/STI and pregnancy prevention. In 2001-2002, based on semi-structured interviews with 78 healthcare providers from four types of settings in New York City, we found that most providers had seen the female condom, but they had not used it and did not propose the method to clients. They lacked details about the method – when to insert it, where it can be obtained, and its cost. Gender of provider, provider level of training, and setting appeared to influence their attitudes. Unless and until provider training on the female condom is greatly improved, broader acceptance of this significant public health contribution to preventing HIV/AIDS and unwanted pregnancy will not be achieved.

Keywords

female condom; healthcare providers; acceptability research; New York City

INTRODUCTION

The female condom is a woman-initiated vaginal barrier that has been heralded for more than 15 years by women's health advocates as a means to expand the choice of pregnancy and disease prevention options and allow women sexual agency (Elias & Heise, 1994; Gollub, 2000; Hoffman, Mantell, Exner, & Stein, 2004; Preston-Whyte, 1995; Stein, 1990; Susser & Stein, 2000). However, it has been under-utilized as a public health prevention strategy, and its use today remains low worldwide. Large-scale uptake has faced formidable hurdles owing to significant structural and social barriers, including higher cost relative to

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the male condom, male partner resistance (Beksinska, Rees, McIntyre, & Wilkinson, 2001; Ford & Mathie, 1993), a disparaging response from the North American press (Kaler, 2004; Susser, 2008), and limited marketing and availability. A recent Oxfam report (Holden, 2008) argues that lack of donor investment in the female condom has been a key deterrent to universal access, and both the Oxfam report and the UNAIDS Global Coalition on Women (2008) underscored the need to invest funds in programs that benefit women.

Recently, advocacy for the female condom has increased, with the 2009 approval of Female Condom 2 (FC2), a second-generation nitrile (synthetic rubber) product, by the World Health Organization (WHO), the United Nations Population Fund, and the U.S. Food and Drug Administration (Fortune Small Business, 2009). A randomized, double-blind, crossover trial comparing FC2 with the polyurethane Female Condom 1 (FC1) found that the FC2's safety profile and failure risk were similar to those of FC1 (Beksinska, Smit, Mabude, & Vijayakumar et al., 2006). At an anticipated 30% lower cost of FC2 relative to FC1, the female condom should now be brought to the forefront of HIV/STI prevention tools.

Research on the acceptability of the female condom among potential users is substantial, and the majority of studies show positive attitudes (Cecil, Perry, Seal, & Pinkerton, 1998; WHO, 1997). One major missing link in this body of research is the role of healthcare providers – what they think and believe about the female condom, whether they actively promote the device to clients, and whether these factors influence user acceptability and uptake. With the exception of a few studies (Mantell, Scheepers, & Abdool Karim, 2000; Mantell, Hoffman, Weiss, Adeokun, et al., 2001; Mantell, Hoffman, Exner, Stein, & Atkins, 2003), data on this issue are scant. Recent data from a New York State Department of Health - HIV Center initiative to promote the female condom in 44 agencies across the state demonstrate that providers' knowledge about and promotion of the female condom remain limited, despite the fact that the female condom is reimbursable through public insurance in New York State, and is available free of charge to agencies located in New York City through the health department. Baseline data collected in 2007 from that initiative show that among 224 participating counselors and providers who conduct sexual risk-reduction counseling as part of their duties, only 39% had received training; the mean number of items correct on an 11-item measure of knowledge was 5, and less than a third had provided female condoms to any client in the preceding 3 months (T.M. Exner, Personal Communication, 2010). Our data from the current study serves as a yardstick against which any later improvements in female condom promotion may be measured.

METHODS

Participants and Procedures

Men and women employed in an agency that provided HIV/STI sexual risk-reduction or pregnancy prevention counseling formed our study group. In 2001-2002 they were recruited from five agencies in New York City, reflecting a diversity of settings: a network of family planning (FP) clinics; an obstetrics and gynecology (OBGYN) unit of a large hospital; a network of clinics dealing with sexually transmitted diseases (STD); and two community-based AIDS service organizations (ASO). At each agency, we informed front-line providers of our interest: physicians, nurses, social workers, counselors, peer educators who conducted sexual risk-reduction counseling with agency clientele as a regular part of their job, and three managers/supervisors of the relevant unit or program. Interested and eligible providers contacted our study team and, 78 (69 healthcare providers and 9 managers) were enrolled.

Semi-structured interviews, lasting about 90 minutes, were conducted with participants. The interviewers were social science graduates experienced in qualitative interviewing.

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Interviews were audiotaped and transcribed verbatim. Participants employed in agencies permitting financial reimbursement were paid $45 for completing the interview. Approval for this study was obtained from the Institutional Review Board (IRB) of the New York State Psychiatric Institute/Columbia University Department of Psychiatry, and the IRBs of the participating agencies.

Assessment

The interviews ascertained participants' background, training, and work history and then focused on knowledge and attitudes about available and emerging HIV/STI and pregnancy prevention technologies, including male and female condoms, microbicides, emergency contraception, and post-exposure prophylaxis. Here, we explore providers' positive and negative attitudes about the female condom, their perceptions of its efficacy and use-effectiveness, the training they had received on the female condom, their personal experience with female condom use, and for whom they thought it was appropriate (other findings from the study are reported elsewhere) (Mantell, Kelvin, Exner, Hoffman et al., 2009).

Data Analysis

Initial data analysis consisted of categorizing broad themes based on a subset of transcripts independently coded by six study staff and public health graduate students. Three research team members then used a thematic approach and content analysis to explore and code subthemes that emerged from the interviews (Hsieh & Shannon, 2005; Schilling, 2006). Coding discrepancies were resolved through discussion until coding consensus was attained. We then developed a qualitative data coding scheme based on our interview topic guide and coded all interviews using the final set of codes, which were applied using a standardized qualitative data computer program (NVIVO, QSR International). Unless otherwise noted, participants' verbatim comments reflect typical or consensus statements.

We set out to explore differences and similarities in providers' knowledge, attitudes and behavior by type of setting, gender of the providers, and providers' training on the female condom. We first describe the characteristics of the sample and, in turn, the training the providers reported they had received. We then detail the perceived availability of the female condom in the providers' agencies; their own knowledge and attitudes to the device, which were explored in relation to gender and training experience; and whether they had had personal experience in using the female condom.

RESULTS

Sample Characteristics

The 78 study participants included 30 HIV/STI counselors and health educators, 19 medical personnel (physicians, nurses, nurse practitioners), 12 psychologists or social workers, 9 administrators or managers, and 8 peer/addiction/harm-reduction counselors. They were drawn from four organizational types: ASO, OBGYN organizations; a network of STD clinics, and FP organizations. Two-thirds of providers were women, and 38% were Black or African-American, 26% White, 5% Asian, 17% Hispanic, 13% other or mixed race, and 1% unknown. All but 4% had post-high school education, 20% had some college or technical school training, 27% had completed a bachelor's degree, and 49% had at least some graduate school. Providers portrayed their clients as being young, low-income, largely Black or Hispanic women and men at high risk for HIV and other sexually transmitted infections (STIs).

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Training on the Female Condom

According to participants, there was great divergence in the training they had received on the female condom. Fewer than half had received any direct training at work. At ASO and FP agencies, about half of the participants had been trained, but at the OBGYN clinics, less than half had received training. Only 12 participants had had extensive training, for example, by the New York City Department of Health or the Female Health Company. Many said that the only information they had was based on the female condom package, or from a brochure. No differences in training experience were found by gender.

Perceived Availability of the Female Condom

Three of the five participating agencies either had (purportedly) no female condoms on hand, or had limited or inconsistent supplies. As one provider remarked:

> "Counselors aren't familiar with offering them [female condoms], patients aren't familiar with accepting them… the demand isn't there. And if there's no demand … it gets to be a sort of Catch-22. [If] you don't put them out there and offer them, then they won't be asked for. If they're not asked for, they won't be bought, and it's a cycle."

Provider Knowledge of the Female Condom

Most providers had seen the female condom, but asked for information about the device, and many had questions about how effective it is, when to insert it, where it could be obtained, and its cost. Their knowledge about the female condom ranged from comments such as: "All I know is – it is a weird-looking little diaphragm, condom. I haven't read too much on it" to ignorance or misinformation about specifics, such as how long before sex to insert the female condom, whether there is more than one type of female condom, whether the female condom is made of latex, and its ability to fit "different sizes of penises." One provider inquired if the female condom interferes with the functioning of women's "internals" (male ASO provider).

Provider Views on the Effectiveness of the Female Condom

Level of knowledge about the female condom's efficacy was generally high. For example, most providers understood that the female condom's efficacy against pregnancy and STIs was comparable to that of the male condom. Indeed, some considered the female condom more effective as it was believed to be less likely to break or burst than a male condom and because it covered a larger portion of the genital area. Nevertheless, some were skeptical of its use-effectiveness and questioned women's ability to use the method correctly. For example, one participant said: "How you put it in, whether you're doing it correctly. It seems a bit more complicated and takes a little bit more effort." Another participant stated: "My guess is that it's slightly more effective than male condoms with perfect use, but that perfect use is lower than male condoms." One provider questioned whether women would be able to enforce the "consistent monitoring of the barrier…if the condom is in place." In addition, several providers noted that with incorrect use, sex would be unprotected and could contribute to a false sense of security: "If it's not being used right, it could…really set people up to believe that they're doing something that's safe that's not safe." Other providers cited a lack of faith in "the ability of the material [polyurethane] to really block transmission" and the higher likelihood of incorrect use.

Provider Attitudes about the Female Condom

Providers expressed both positive and negative attitudes about the female condom, but most believed that in principle the *concept* of the female condom was a good one. The female

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condom's potential to enhance sexual pleasure emerged as a key theme. Many providers noted that the heat-transmitting quality of the polyurethane and clitoral stimulation from the outer ring increased sexual sensation. As one provider reported:

> "People that have used them say it feels great; the sensitivity even though it's plastic, once it hits body temperature, you really can't even know it's there… and it's no bother to a man, so he shouldn't complain. He doesn't have to do anything."

The sexual spontaneity resulting from female condom use being independent of sexual coitus was reported to be another positive feature of the female condom. A male provider commented:

> "Unlike the male condom where you have to be sexually aroused to be able to put it on… spontaneity could exist a little bit more."

At the same time, problematic aspects of female condom use were noted. Several providers thought that the inner ring was too hard and inflexible, and the aesthetics of the female condom put some providers off, which was reflected in descriptions such as "big," "greasy," and "not sexy." One woman said, "The last one I saw was scary, because it was this long tube with these flaps. And it sounded like you were putting a baggie up somebody, and it was like, you know, it was horrid." Another provider did not recommend the female condom "because it's not a skin-tight male condom which holds in semen." Some providers questioned the added value of the female condom over the male condom. As a male FP provider said: "There seem to be so many other methods. I'm not sure why it was developed or why it was even needed."

Gender seemed to influence providers' attitudes about the female condom. Men were more positive than women about its use; two-thirds of the men compared with just over half of the women evaluated it positively. The women who were negative thought it was complicated and uncomfortable to use, and expressed doubts about whether it would provide women with any more control or choice than the male condom. Some men voiced concerns that the female condom is just as unlikely as the male condom to be used. Both female and male providers with positive attitudes shared the belief that the female condom could be an important tool for protecting women and increasing their control over their bodies.

Personal Experience with Female Condom Use

Only nine providers (8 women and 1 man) reported having tried the female condom, and they reported varying degrees of success. Among this group, some reported negative experiences, indicating that it "just didn't work for them" or that they did not like it. One young woman said: "I just didn't have the patience for it. I did try three times maybe because it is new and it was uncomfortable and I was rejecting it – subconsciously I was rejecting it." Others had difficulty using it correctly or found it awkward.

Another woman noted, "I don't know how effective it is after trying it myself…I think it wasn't quite working right…. But the idea of it is good." Still another provider had a good experience with the female condom and said, "I thought it was convenient. I felt confident because it was just something I can do myself… I really like that."

Some providers expressed interest in trying the female condom although they had not actually tried it at the time of interview. As one woman said: "Yes…I would like to use it, because you never know what somebody's had…." Despite her interest, another woman faced barriers to using the female condom because of her partner: "Personally, I would like to try them, but I suggested it to my partner, and it's like… new to him."

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At the same time, some providers with no personal experience with the female condom indicated that they had little or no interest in using it and explicitly said that they would not try it. A female ASO provider reported that "it seems to be…a messy kind of situation. Now, I could be wrong because I've never used it. But just by the way it was explained to me there's that chance of a spill… I don't find it personally very inviting." A female OBGYN provider said:

> "I really don't recommend it…Perhaps if I used it myself, I might feel differently about it…I think I'd have to hear some good reports, and I haven't had any good reports on it yet. And I'd have to have it more available."

Other providers indicated that they were uninterested in trying it because "that's not my lifestyle" (female ASO provider), because "I'm too old for that" (female OBGYN provider), or simply stated that they "wouldn't ever consider using it" (female ASO provider). In the words of another provider: "I have a tendency —to use what I know and what I find aesthetically pleasing."

Provider-Client Dynamics: Wide-Ranging Views

The interactions between provider and clients illustrate some of the difficulties female condom uptake may face. Providers clearly were influenced by their view of a client.

Who would or should use the female condom?—While most providers indicated that they would recommend the female condom to a client, friend or family member, they often had contradictory opinions about who should and should not use the female condom, depending on age, level of risk, and the context of use. For instance, sixteen providers thought that young people were an appropriate target audience because of their tendency to experiment with sex and relationships and their openness to new contraceptive and protection methods. On the other hand, 11 providers said that the female condom was an inappropriate method for youth, citing that youth are uncomfortable with their bodies, do not use condoms consistently, and may have difficulty using the method correctly. For example, one female FP provider said:

> "You can't give that to a young person because I don't think they're going to use it… It's long and ugly…and I don't think a young female would be able to follow those steps correctly."

Adults or older clients were also identified by some providers (n=5) as an ideal target population for the female condom because of their stability, comfort with their bodies, or likelihood of being in a monogamous relationship; however, two providers noted that older persons were not ideal because of their unwillingness to try new things.

Similarly, a number of providers (n=10) believed that "high-risk" individuals – having multiple partners, being promiscuous, drug users, and sex workers – were ideal candidates for the female condom, largely out of need for any method of protection, while a few (n=3) thought they were not suitable because of their inability to use the method consistently. Three providers also mentioned HIV-positive women as great candidates for the female condom.

A few providers mentioned specifically that they would hesitate to recommend the female condom to women who experience intimate partner violence because of the threat it might pose to their safety. One female ASO provider stated:

> "A woman would have to have good communication with her man because I think even talking to her mate about condoms would be hard enough, but the female condom, she might take more risk in him feeling like she might be playing around."

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On the other hand, some providers said that the female condom could be a useful tool for women in situations of domestic violence: "If he doesn't want to use [male condom], you can still use it and protect yourself…if she takes responsibility…she feels protected." Overall, 15 providers noted that the female condom is a good option for women whose partner did not want to use the male condom; and one provider said, "I would bring it up if the patient mentions her partner being reluctant to use a [male] condom as an option where the patient could feel that she has some sort of power."

Despite attitudes that certain populations may be particularly good or bad candidates for female condom promotion, some providers (n=26) reported they would recommend the female condom to everyone. Others qualified this broad statement by adding that women should be comfortable with touching their bodies and should be open minded and want to try a new method. Providers also indicated that they attempt to see what works for their clients. As a female provider said, "I don't think there would be anyone I would selectively not recommend [it] to. I give the option of all the methods." Similarly, another said, "anyone who wants to practice safe sex. It doesn't matter about the socioeconomic or the race or whatever. As long as that individual feels it's good for them, I think they should use it."

Provider power—While attitudes or biases may color counseling practices and recommendations, providers were aware of their influence over clients. For example, a female ASO provider noted that counselors can be "very persuasive with their words." She elaborated that counselors assume that clients are "not going to use that or that people are not going to go for that…so they'll either neglect to give the information and knowing it's out there, or… they spend so small time on it that it's like you didn't even know." Specifically, providers recognized the power of suggestive influence that they had over clients, especially their potential role in increasing clients' awareness and uptake of the female condom. Or as a female OBGYN provider commented, "We just need to talk more about it for it to be more acceptable… The clients just have to get used to the fact that it's another method that can be used." A male OBGYN provider noted that the "female condom should have a place in the menu that we have for contraception."

Client reactions influence providers—At the same time, clients' reactions to the female condom, as reported to the providers, appeared to influence providers' attitudes. For example, a female FP provider reported that clients have told her their partners say it's real nasty. So the female condom is a no-no for me. She also heard from clients that it comes off, leading her to believe that it is ineffective for disease prevention. A male ASO provider reported that "women say it's a hassle putting it in, and… it's a hassle getting it out," and another male ASO provider reported that clients responded with such comments as "No…I have to put that in me, that looks kind of…very uncomfortable, and how's my man going to feel about this?"

Gender relations, empowerment, and the female condom—Providers also struggled with gender role norms and the commonly held belief that the man is responsible for disease protection and the woman is responsible for contraception. A young male counselor at one ASO said: "It takes men off the hook but…it's important to have as many different options of birth control as possible." This idea of taking men "off the hook" was proposed as a potential way to promote the female condom. A female provider at the family planning agency argued that she would target men because "as long as you're taking some of that pressure off them [for birth control], they'd be like, yeah, honey, let's go get the female condom." So for some providers, the female condom offered a tool to stress mutual responsibility for disease and pregnancy prevention to their clients.

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Providers also mentioned the potential for a sense of empowerment with female condom use, and one ASO provider commented that the female condom could encourage women to take control and diminish men's responsibility. Other providers positively viewed the female condom as a device that expanded prevention options and put the responsibility for protection onto women, thereby fostering empowerment. As one male family planning provider indicated, "the female is in control of the situation…If the partner doesn't want to wear a [male] condom, she says 'okay, well I have one too.'" Furthermore, promoting the female condom to men as an alternative to the male condom was seen as an effective "bargaining for barriers" strategy: "This will be an effective way to say…you don't have to use a male condom if you allow me to use my female condom. We do trade-offs. We talk about females…discussing sex in an open way and how best to protect themselves for both their benefits" (female OBGYN Provider).

However, within the context of relationships and actual sexual encounters, providers saw a number of limitations to women negotiating female condom use. As a female counselor at an ASO succinctly argued, "I think consenting to the use is difficult for women. They have more power in using it, but consenting may be a little more difficult." Condom use was also related to trust and intimacy, and when explaining why clients do not use condoms, a female family planning provider said that "they think that he'll like them better, he'll trust her more. It will make for a better relationship…like she's giving him something that no other woman is giving him."

DISCUSSION

In 2001-2002, our sample of New York City healthcare providers had little detailed information about female condoms, and few had been specifically trained in their use or had had personal experience with them. Moreover, little effort was made by the majority of agencies to provide the needed knowledge, and most did not obtain and keep an adequate supply of female condoms because of their high cost and the limited number of free devices provided by the city and state health departments. However, it is clear that with training and knowledge, there was the potential to improve this situation. At that time of our study, North American media had dismissed rather than heralded with enthusiasm the arrival on the scene of the female condom (Kaler, 2004; Susser, 2008). Indeed, it is only recently that this has begun to change.

In 2001-2002, providers believed that the female condom was at least as efficacious as the male condom for pregnancy (and disease) prevention. This perception is now well supported by findings of a multi-country study of the contraceptive efficacy of the female and male condom reported after the present study which found no differences by type of condom (Desperthes, 2005).

Several studies now demonstrate that with practice and repeated use, many of the problems that women had with female condom insertion far lessened. An intervention study conducted in an Alabama STD clinic found that after repeated practice on a pelvic model and opportunity to insert the device and receive feedback by a nurse, the prevalence of insertion difficulty decreased from 25.0% to 3.0% (Artz et al., 2000). Similarly, another study found that female condom breakage and slippage rates significantly decreased with increased use of the device; after more than 15 times of use, combined failure rates fell from 20.0% to 1.2% for female condoms (Valappil et al., 2005). Arming providers with evidence-based information, such as that reported in the above studies, may now help to mitigate their apprehension.

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Our small qualitative study was encouraging with respect to the potential role of male providers in the clinics. That male providers were open to the idea of promoting the female condom is heartening as they could be mobilized as agents of behavioral change. Training male providers to engage their male clients will lead them to confront the benefits and challenges of the female condom as an empowerment tool noted by providers in this study as well as in the literature (Kaler, 2001; Mantell et al., 2006). Men represent a relatively untapped audience, and their introducing female condoms to female and male clients may help to increase men's support for their partner's use of the device. Providers' view that the female condom is associated with increased sexual pleasure suggests a unique opening for exploiting sexual pleasure that could be achieved with female condom use, including normalizing the "power of sexual pleasure" for both men and women (Higgins & Hirsch, 2008; Philpott, Knerr, & Boydell, 2006). As men are one of the driving social forces in increasing women's vulnerability to HIV and other STIs, providers need to view them as part of the solution. This includes finding creative ways to talk about women's protection and the female condom with men, which can preemptively address issues surrounding partner communication and negotiation of its use, as well as enlisting men's support of their partners' use and their own initiation of the device. Recent discourse supports these arguments, recognizing the need to debunk the misconception that female condoms should be used and initiated only by women (and male condoms only by men) (CHANGE, 2009).

Exploring beliefs about the ideal female condom user unearthed myriad prejudices about the method, as reported in other studies of contraceptives (Abdool Karim, Preston-Whyte, & Abdool Karim, 1992; Hamid & Stephenson, 2006; Speizer, Hotchkiss, Magani, Hubbard, & Nelson, 2000; Wesson et al., 2006). Providers' limited personal experience with the female condom clearly affected the possibility for recommendation. Nevertheless, providers viewed the female condom to be a preferable or ideal method for some women. The popularity of the female condom among certain groups of users also has since been noted in the literature, for example, among HIV-positive women who described feeling more confident using a female than male condom or no condom (Welbourn, 2006). Even among providers with relatively positive attitudes about the female condom, providers did not seem to proactively help clients overcome their initial reluctance to the device, viewing the female condom as a method of last resort – to be suggested only when a woman lacked other prevention options. So, although providers said they were willing to or had recommended the female condom, it is unclear how often they did so and it appears that recommendation was infrequent.

Level of training was associated with more positive attitudes, an observation that held for both women and men providers. The organizational setting also influenced attitudes, with those working in the ASO and STD clinics being most favorable. These attitudinal differences toward the female condom may reflect broader differences in organizational ethos, as providers with the most positive attitudes worked at organizations with a greater focus on harm-reduction.

A growing body of research shows that provider communication can have a positive impact on clients' contraceptive behaviors (Campbell, Sahin-Hodoglugil, & Potts, 2006; Hardee, Clyde, McDonald, Bailey, & Villinski, 1995; Kerrigan, Mobley, Rutenberg, Fisher, & Weiss, 2000; Oddens & Lehert, 1997), including female condom uptake (Adeokun et al., 2002; Agha & Van Rossem, 2002). Training on the female condom appears to be particularly important because, as we found, provider familiarity and personal experiences with the female condom shaped attitudes and proclivity toward recommending the technology to clients. Proper training on the female condom could be a particularly important step in curtailing providers' negative attitudes and increasing uptake of the female condom (Mantell et al., 2000; Mantell et al., 2001). Given the difficulty of providers introducing a method to clients that they do not know how to use, it is promising that

providers were enthusiastic about receiving formal training on the female condom. Providers most frequently requested data on the contraceptive and disease prevention efficacy of the female condom. Increasing providers' awareness of the benefits of the female condom and skillful instruction regarding use, along with values clarification training, can teach them how to present it in an impartial yet positive way that will help women and their partners to overcome psychological and physiological difficulties that they might encounter as they experiment with a new method.

Study Limitations

There are a number of limitations to our study. First, the study was conducted in only five agencies in one city, and this could limit the generalizability of the findings to a wider group of providers. However, in this qualitative study, our goal was to understand the range of provider responses to the female condom. Second, as explained above, because our study was conducted in 2001-2002, it may not reflect the views of healthcare providers today. Although female condom distribution to public sector clinics and community-based organizations in New York State has undoubtedly increased since 2001-2002, only 827 individuals filed Medicaid claims for female condom reimbursement in 2008, and more than 20 times the number of people claimed reimbursement for the male condom compared to the female condom during that same time period (J. Tesoriero, personal communication, 2009). Our study with providers in New York State, as noted earlier, suggests that there has been little change in providers' knowledge and practices in the 5-year period between our two studies. Even in 2007, relatively few providers in the sample had been trained on the female condom, most had low knowledge and few offered the method to clients. Thus, findings from the current study seem to "stand the test of time" and establish a benchmark for gauging changes in providers' attitudes and practices.

CONCLUSION

The female condom should be part of the continuum of products delivered within HIV and pregnancy prevention programs. Providers are well placed to serve as advocates for the female condom, as clients look to them for help in making decisions around pregnancy and disease prevention methods. Their knowledge, attitudes, and comfort with the female condom can affect whether they promote the method and whether clients' uptake of the female condom is increased. Understanding the factors that may enhance or limit healthcare providers' comfort in recommending the female condom may help to design interventions to increase its promotion. Most providers and counselors work within organizational settings that may influence if and how female condoms are promoted. Thus, there is a need to move beyond assessing individual user acceptability to understanding the culture and policy environment of health and social service systems and how they intersect with provider attitudes and practices and user factors. Research on providers' attitudes about the female condom in both resource-enhanced as well as resource-constrained contexts where the female condom has vastly different meanings is needed to understand how, why and with whom effective female condom programming is occurring.

Universal access to the female condom merits prioritization. The female condom is the only available alternative to the male condom that offers protection from unintended pregnancy and HIV/STIs. A recent groundbreaking trial established proof-of-concept for the efficacy of a vaginal gel microbicide (CAPRISA 004) (Abdool Karim, Abdool Karim, Frohlich, Grobler, Baxter, Mansoor et al., 2010) and another trial (IPrEx), for oral preexposure prophylaxis (PrEP) (Grant, Lama, Anderson, McMahan, Liu, Vargas, er al., 2010). However, it will be at least years before these biomedical HIV prevention technologies would be on the market. Vaccines are on the horizon, but none have proven to have efficacy. Currently, we need to scale up promotion and access to the female condom to ensure more

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widespread availability and increase user demand. Healthcare providers are likely to be a linchpin in the successful advocacy and marketing of the female condom as well as other biomedical HIV prevention methods.

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