Examining Targets for HIV Prevention: Intravaginal Practices in Urban Lusaka, Zambia

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Abstract

Intravaginal practices (IVP) are the introduction of products inside the vagina for hygienic, health, or sexuality reasons. The influence of men and Alengizis, traditional marriage counselors for girls, in promoting IVP has not been explored. We conducted gender-concordant focus groups and key informant interviews with Alengizis. The responses were conducted grouped into three themes: (1) cultural norms, (2) types and reasons for IVP, and (3) health consequences. We found that IVP were used by all participants in our sample and were taught from generation to generation by friends, relatives, or Alengizis. The reasons for women to engage in IVP were hygienic, though men expect women to engage in IVP to enhance sexual pleasure. Approximately 40% of women are aware that IVP can facilitate genital infections, but felt they would not feel clean discontinuing IVP. All men were unaware of the vaginal damage caused by IVP, and were concerned about the loss of sexual pleasure if women discontinued IVP. Despite the health risks of IVP, IVP continue to be widespread in Zambia and an integral component of hygiene and sexuality. The frequency of IVP mandates exploration into methods to decrease or ameliorate their use as an essential component of HIV prevention.

Introduction

WOMEN'S USE OF VAGINAL PRACTICES for personal hygiene or to enhance sexual experiences has been well documented.^{1–5} Vaginal practices can involve the external genitalia (external washing and external application) or the vaginal canal (intravaginal cleansing or intravaginal insertion).^{6,7} Intravaginal practices (IVP) are those that involve the vaginal canal and have been associated with an increased risk of human immunodeficiency virus (HIV) and STI acquisition.^{7,8}

Intravaginal practices, in particular intravaginal cleansing, increase the risk of bacterial vaginosis (BV), the most common cause of vaginal discharge and malodor in women. BV is known to increase susceptibility and transmission of HIV and STI to sexual partners and newborns.^{1,9–11} IVP can also decrease the efficacy of topical microbicides, products aimed to reduce new HIV infections.^{1,12} In Sub-Saharan Africa, women engage in vaginal practices to clean or to facilitate dryness of the vagina and to promote “dry sex,” a practice believed to increase sexual pleasure for men. IVP that include insertion of products to promote dry sex leads to genital

abrasions that can facilitate HIV acquisition and transmission.^{3,4,7,8,13–15}

IVP are strongly influenced by social and cultural beliefs, introduced to women at an early age, and normally taught by older females (relatives, friends, or traditional marriage counselors).^{15,16} Although IVP are female initiated and intended to be conducted without the explicit knowledge of men, many IVP are driven by male preferences.^{12,15,16}

Zambia is a country severely affected by the HIV epidemic, and the prevalence of HIV in women is as high as 35%.¹⁷ In this country, IVP are common and the practice of dry sex has been reported among nearly 50% of women.^{15,18} Despite growing concerns about the potential harm of IVP, little is known about the social and cultural norms and beliefs in urban Zambia regarding various types of practices, or about the role of traditional female counselors, “Alengizis,” in promoting these practices.

This study sought to identify beliefs and cultural norms influencing IVP, and presents qualitative data on IVP obtained from women, men, and Alengizi counselors in urban Lusaka, Zambia. Data presented are part of a larger study to develop a culturally tailored intervention to decrease IVP

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among women in urban Zambia. It was hypothesized that the current data and intervention could ultimately provide a foundation for the design of an IVP-based HIV prevention program for the Zambian community.

Methods

Ethical statement: Approval from the University of Miami Institutional Review Board and the University of Zambia Ethics Research Committee was obtained prior to conducting any study related procedures.

Study activities took place at three Community Health Centers in urban Lusaka, Zambia. Qualitative data were collected from gender concordant focus group discussions and key informant interviews. Preliminary data for this study identified individual beliefs and practices in this community and has previously been published.¹⁵ Three focus groups consisting of ten women each and one focus group of ten men were conducted by gender-matched female and male facilitators. Key informant interviews with three female Alengizis were conducted by a female interviewer. Focus groups and interviews were conducted in participants' local languages (Bemba and Nyanja) by Zambians fluent in both languages. Bemba and Nyanja are spoken by the predominant ethnic groups in the city of Lusaka and although the languages are different, most people in Lusaka speak both in addition to English, the lingua franca. In previous studies, IVP were similar across these ethnic groups.¹⁵ All materials were translated into English in accordance with a "cultural brokerage" process to ensure comprehension and validity of data collection procedures. Cultural brokerage was operationalized as the process of translation and back translation, followed by discussion of items of disagreement, to arrive at the most accurate and meaningful translation.

During the interviews, researchers used semi-structured guides built around the following topics regarding IVP: cultural norms, description of practices, reasons, and concerns about discontinuation IVP. The focus group discussion leader described the purpose of the study to the group, as well as provided a definition of IVP—"introduction of anything inside the vagina (including water, soap, fingers, herbs, traditional medicine, cloths,...) for any reason." IVP topics were identified from previous research and were designed to identify modifiable factors to include as part of an eventual IVP culturally tailored intervention.¹⁵

Focus group stem questions among both men and women and key informant interviews were divided in three sections: (1) cultural norms for IVP; (2) types and reasons for IVP; (3) health consequences of IVP and concerns of discontinuing IVP. Table 1 includes example of the main topics and stem questions to the female and male groups and Alengizis.

In preparation for the research activities at the Community Health Center, prior to conducting the focus groups and interviews, introductory meetings with the clinic staff and female and male members from the local Community Advisory Boards were conducted. Participants in the study focus groups and interviews were referred to the study by clinic staff and Community Advisory Board members.

Data management and analysis

Data consisted of audio-recordings and written notes collected during focus groups and key informant interviews.

Recordings were transcribed in Bemba or Nyanja and then translated into English. Transcripts were coded thematically from the predefined themes and analyzed using the qualitative data analysis software NVIVO8.¹⁹ The coding themes were developed following a review of the literature and using data from a previous pilot study.^{4,12,13,15,16,20}

Results

Participants (women, men, and Alengizis) asserted that IVP were widespread among women in Zambia. All women reported having engaged in IVP and all men knew women engaged in IVP. The three Alengizis interviewed also acknowledged the use of IVP by Zambian women. A summary of the responses is presented in Table 1.

Cultural norms for IVP

Perceptions of cultural norms for IVP were consistent between the focus groups with women, men, and the Alengizi interviews. All participants agreed that IVP were a tradition in the Zambian community, learned from generation to generation and taught to women by friends, relatives, or Alengizis.

Women's focus group. All women agreed that vaginal practices are introduced at young age, around age 12, and IVP are learned in preparation for marriage. Women asserted they learn about IVP from female relatives and Alengizis. Statements by women included:

Even if she is a baby as young as 12 years, we are teaching the child to splash water to the vagina.

We learn from friends, grandparents, traditional counselors, and generation to generation.

We learn from being taught by our elders and friends as well as relatives.

Men's focus group. All men were aware of the practice of IVP by women. They felt that women are expected to engage in IVP to show respect to men; and they should learn IVP prior to marriage. Men also knew that IVP are introduced to women by traditional Alengizi counselors and friends:

It is very common that women practice this (IVP). It is a tradition and a requirement for every woman to show some kind of respect to her and the husband.

Most men encourage women to do these practices because it is part of the traditional and cultural beliefs.

Mostly they are taught as they prepare for marriage from traditional counselors, some even before they get married would have learned from their friends.

Alengizi interviews. Alengizis described their role in the Zambian community as primarily to teach young females "how to behave." Alengizis have different roles throughout a woman's lifetime. Girls are taught to show respect for adults, and young women how to stay away from boys and men. Adult women, as they prepare for marriage, are introduced to vaginal practices to stay clean and please their sexual partners. When Alengizis described their role as marital counselors, they focused on external practices such as mutual shaving and wiping of the external genitalia. Mutual shaving was described by the Alengizis as a common practice taught with the purpose of showing cleanliness with the sex partner.

TABLE 1. FOCUS GROUP DISCUSSION AND KEY INFORMANT INTERVIEWS QUESTIONS AND RESPONSES

<i>Topics</i>	<i>FGD and key informant interviews questions</i>	<i>Responses</i>
Cultural norms	<p><i>Women</i></p> <p>What can you tell me about women's hygiene? When women start doing vaginal practices? How old are women when they are taught about women's hygiene?</p> <p><i>Men</i></p> <p>What do men know about women practices of cleaning the vagina or putting things to change the vagina to make it tight? How do women learn about cleansing or tightening the vagina?</p> <p><i>Alengizis</i></p> <p>Tell me what you do as an alengizi? What do you teach women when they enter puberty, following menstruation? What do you teach girls before marriage?</p>	<p>Vaginal hygiene is an essential part of women's health in Zambia. Girls are initiated in IVP at early ages by older relatives.</p> <p>Men are aware of the use of IVP to clean it or to make the vagina tight and consider it a tradition. Men felt women learn from Alengizis.</p> <p>The role of Alengizis is to teach young women about feminine hygiene and to please their sexual partners.</p>
Rationale, perceptions and types of practices	<p><i>Women</i></p> <p>Why do women do vaginal practices? What products women use for different purposes? How do women use those products? How are they applied? When do women do vaginal practices?</p> <p><i>Men</i></p> <p>How can women clean or tighten the vagina? Why do women put products inside the vagina? What types of products can women put inside the vagina? Do men want women to engage in vaginal practices? Why? Do men like vaginal practices?</p> <p><i>Alengizis</i></p> <p>What do you teach girls or women about keeping their private parts clean, inside or outside? How do you teach them to keep their parts clean? What kind of materials do you tell them to use? What do you teach girls or women to put in the vagina to please their sex partner and make sex dryer?</p>	<p>Women engage in IVP primarily to stay clean and healthy as well as to please sex partners. They use different products such as water, soap, fingers or traditional herbs.</p> <p>Men are aware of the products women use and expect women to engage in IVP and like the effects of IVP.</p> <p>Alengizis teach primarily external vaginal practices, as well as the use of soap and water after menses. IVP as a way to promote dry sex is used in rural communities with a variety of local products.</p>
Health consequences and concerns of discontinuing IVP	<p><i>Women</i></p> <p>What do you think happens to the vagina when women do vaginal practices? What would you do if you knew vaginal practices are not healthy? What do you think will happen in women stop vaginal practices? How can women stop IVP if they are not healthy?</p> <p><i>Men</i></p> <p>What do you think will happen in women stop vaginal practices? If vaginal practices are not healthy for women, can women change what they do? How can women change vaginal practices is men's sexual pleasure is less? What would men think about vaginal practices is they know they were not good for women?</p> <p><i>Alengizis</i></p> <p>Do you teach girls anything about HIV/AIDS or STIs?</p>	<p>Some women knew IVP could facilitate genital infections and cancer and would stop IVP. Women felt it will be difficult to change. Women suggested the involvement of men to stop IVP.</p> <p>Men were concerned of loss of sexual pleasure and lack of hygiene if women do not engage in IVP. Men would support women in discontinuing IVP if IVP are not healthy.</p> <p>Alengizis discouraged the use of IVP as they are aware IVP facilitate HIV and STIs.</p>

For adult women: (I teach) respect both young and old including your husband and in-laws, keep clean both inside and outside by bathing and changing clothes, know how to receive your in-laws and husband. Before a woman's husband comes back from work she should ensure she has bathed and the house is clean. She should shave herself and husband because hair itches and harbors infection.

When girls enter puberty, I give them a clean cloth brought by the mother or a relative and teach them how to use it, I teach them to stay clean and healthy.

I also teach them how to receive their partner when he comes back home, how to shave her pubic area to make the area clean.

Alengizis agreed that IVP are a tradition in Zambia taught in preparation for marriage. However, all Alengizis agreed that teaching women about IVP has changed over time due to the HIV epidemic. They were aware that IVP can be harmful and could facilitate HIV and possibly cervical cancer. They also said that although in the past there was a lot of emphasis on teaching how to promote sexual dryness, now the focus is more on external vaginal practices. During the interviews, Alengizis expressed that in the cities there is more knowledge about the harmful consequences of IVP, whereas in the villages, the teaching of dry sex is still widespread.

I used to teach them there is some powdered medicine which one puts in the vaginal (canal) to render the vagina warm to please the husband, but I have stopped because of cancer of the cervix.

Some in the country side have continued telling girls to put things in the vagina like a cloth that is warm, fresh leaves like tomato leaves, or ashes burnt from roots of the tree.

Rationale, perceptions, and products used for IVP

Rationale and perceptions for IVP differed between female and male participants. Women's reasons for IVP were primarily related to hygiene. However, men's discussions about reasons for IVP focused on the practice to facilitate sexual pleasure for the male partner.

Women's focus group. Women's reasons to engage in IVP were diverse and mainly related to hygiene and health; all women described using IVP to keep clean and about 50% of women also stated engaged in IVP to stay and healthy and to avoid infections, in particular genital cancer. About half of the women also reported the use of IVP to please their sex partners and facilitate dry sex.

Vaginal practices are to remove smell, dirt, and whitish stuff. Vaginal practices are for keeping clean and avoid infections like cancer.

Vaginal practices are done before and after sex, to clean after menses, and to please our husbands in terms of sex.

Women also enumerated products used for hygiene purposes, including water, soap, fingers, traditional herbs that 'suck' the discharge, vinegar, lemon juice, and cloths with salt that could be inserted for a few minutes. Products used to please husbands and keep the vagina tight were different, for example, small cloths warmed on a heater, small stones from the Congo, vaginal soap (e.g., Virginity[®]), pounded dry roots or leaves, baby powder, Flagyl[®] tablets, and flowers or bushes from the back yard or provided by relatives or traditional counselors, as well as techniques such as actual cutting around the outside of the vagina.

There was some disagreement related to the preference of dry sex by male partners. About 60% of women believed dry sex was preferred by their male partners, and the rest felt men preferred wet sex. To facilitate wetness, women applied Vaseline, saliva, or family planning tablets. Although women asserted the purpose of IVP was to dry the vagina to please their partners sexually, they agreed that dry sex is painful and does not make sex enjoyable to the woman engaging in it. Women felt that dry sex was primarily practiced in rural settings, although all participants in the focus groups were very knowledgeable of the practice:

Those that prefer dry are mainly in the villages.

In town they like wet, but even here some still like dry.

These days they want wet vagina.

Men's focus group. Though the practice of vaginal cleansing is gender specific, men knew women used IVP to keep the vagina clean and to make it tight during sex. Men enumerated different products that they believed women used for IVP such as water, soap, lemon, beer, traditional powdered medicines, and traditional herbs soaked in water or boiled. All men in the focus group held the expectation that women would engage in IVP, most to facilitate dry sex and a minority (2 men) to ensure cleanliness:

When they put the medicine (traditional powdered medicine) inside the vagina, the vagina becomes tight enough for the man to enjoy sex.

Women put traditional powdered medicine in the vagina to make it tight and so that during sex the man feels warm.

Some women use Castle Lager[®] beer to clean and tighten the vagina.

Alengizi interviews. Alengizis believed that IVP are essential for women to be clean, as well as an important way to show respect and care for the male partner. Alengizis were aware that the introduction of products in the vagina could be harmful and stated they focused primarily on external IVP such as mutual shaving and the use of beads (worn around the waist during sexual foreplay). Alengizis stated that they still promoted the use of soap and water after menses, but with emphasis of only the external genitalia. One of the Alengizis said she encouraged the introduction of the finger to remove dirt in older women.

We teach them on how to shave their pubic hair and general hygiene like bathing every day and washing their pants (undergarments) and the changing of (their) pants every time they bathe.

When cleaning the blood don't put finger in the vagina, that causes sores and if you are a virgin it is not right.

A long time ago I taught never put finger in their vagina, because they were young and virgins, unless those that were sleeping with their partners.

One Alengizi described types of IVP aimed to increase sexual pleasure to the male partner by drying the vagina, but stated those practices are no longer taught:

Some of the things used in the vagina to keep it warm and strengthened are called aloe vera leaves, which are dried and pounded.

The medicine we used to give the girl about to get married to please the partner was called Nyanganya, from the bark of the

mukuyo (baobab tree), which is pounded after drying. You use a finger with a bit of powder that is put in the vagina. I tell them to wash it off after some time, like after the whole day, or with some, one hour.

Health consequences of IVP and concerns of discontinuation of IVP

Responses regarding the health consequences of IVP differed by gender. Many women were aware that IVP could be harmful and felt IVP could facilitate genital cancer, HIV, or other infections. Men, on the other hand, denied knowledge of any of the health consequences of IVP. Alengizis revealed a broad knowledge base regarding the harmful effects of IVP.

Women's focus group. About 40% of women were aware that IVP could be harmful, and stated IVP could cause bruises and sores to the vagina and facilitate HIV or other infections. However, all women felt that cleaning the vagina will make vaginal infections to disappear. Two participants in the focus groups described a history of cervical cancer, and stated they were told that IVP could facilitate genital cancer.

I was told never put my fingers in the vagina because I went for vaginal screening and was found with pre-cancerous cells and (then I was) taught how to care about my vagina. Bruises caused by these practices (IVP) are sores; and inside the vagina is warm, so it will cause pus and smell. If the vaginal walls are cleaned vigorously, there is easy transmission of infection like HIV, if your partner is infected. This means (related to the above statements) that when we cut ourselves and our vagina is nice and tight we think we are pleasing our partner but hurting our selves?

Women were asked whether they will be willing to discontinue IVP, and if so, what concerns they might have about doing so. All women agreed it would be difficult and require much effort, but that with education and involvement of male partners it could be accomplished.

For some women it will take some time to get used not to washing their vaginas. It is important that we discuss these things with other women so that we get the idea. I remember at church we were taught something like this. Intense focus group discussion in the communities will help. Men must be involved as well' (all women agreed to this).

Men's focus group. Men, however, were unaware that IVP could facilitate HIV or STIs. Men supported the use of IVP and expressed their concern about women discontinuing such practices. Most men felt that women that do not engage in IVP are not hygienic enough. All men agreed that if women do not engage in IVP, there will be a loss of sexual pleasure.

If women stop these practices the vagina will become loose, hence the man will never enjoy sex. If women stop these practices there will be lack of hygiene.

Men also felt that the lack of IVP would result in poor hygiene and as a result, in vaginal infections that would cause a bad smell. One man stated that the presence of these infections and lack of hygiene could result in men turning to other women.

If a woman has a vaginal odor the man will talk to her about the importance of keeping the vagina clean (but/or) and he could start cheating on the wife. The woman will be told to go and visit a traditional counselor to be taught more on how to keep the vagina clean before and after sex.

However, men also felt that if IVP were not good for women's health, women should cease engaging in IVP.

If vaginal practices are not good for women, they should stop using them immediately.

Alengizi interviews. Alengizis were aware that introducing substances to facilitate dry sex should be avoided to prevent STIs and HIV. Alengizis stated that in order for women to discontinue doing IVP, both women and men should be educated on the topic.

I no longer teach them on herbs as I have learned of the bad effects. I teach them to wash vulva with soap and water, never to poke fingers in the vagina, not to put anything to make it dry.

Discussion

This study identified beliefs and cultural norms influencing intravaginal practices in urban Lusaka, Zambia. Results from women, men, and Alengizis indicate that IVP continue to be common practices and are considered an integral component of women's hygiene and sexuality. Women used a variety of products to engage in IVP, primarily to ensure hygiene. Men felt IVP are essential to facilitate dry sex. Women and men felt that discontinuing IVP would be difficult, even if IVP are harmful, as they are widely used traditional practices. Both women and Alengizis felt that interventions to change these practices should engage men.

Cultural norms play an important role when examining IVP in different countries. As in the current study, other studies conducted in Africa (South Africa, Zimbabwe, Zambia, Mozambique), Asia (Indonesia and Thailand), and in the US among ethnic minorities (e.g., African American and Hispanics), found that vaginal practices are widespread and a cultural tradition related to women's sexual and hygienic practices.^{1,12,21-24} Therefore, changing IVP involves extensive consideration of local norms and traditions, and additional studies of IVP will be needed in communities in which IVP are common. Information derived from such studies could then be used to provide a foundation to develop interventions focused on influencing IVP, which may ultimately play a key role in decreasing BV, STIs, and HIV.

The rationale underlying IVP is multifaceted and primarily involves women's and men's beliefs, and attitudes regarding hygiene and male sexual preferences. The practice of dry sex, although not common in Western countries, has largely been described in Africa as preferred by African men.^{1,12,15} The current study revealed that IVP in Zambia are driven by both hygiene and male preferences. The role of Alengizis, to educate women about sexuality and IVP, is accepted and respected by men. IVP are important to men, not only to facilitate dry sex, but also to enhance women's perceived cleanliness. Therefore, mobilizing the status of Alengizis' to influence men's beliefs may be an important avenue to reducing IVP.

In the US, the practice of IVP, using primarily commercially available vaginal douches, is a common component for hygiene among ethnic minorities.^{21,23,25,26} In contrast, women in Africa use a variety of other products.^{4,15,16} In our study, women used fingers, soap, water, roots, leaves, traditional medicines, vinegar, lemon, and beer. Despite being broadly used, information regarding IVP is rarely collected as part of routine medical or gynecological care, which results in underestimation of its potential risk by medical professionals. Moreover, it is unclear what the most damaging products are, and biomedical studies assessing the mucosal damage caused by each product need to be designed. Studies to clarify the relationship between particular IVP, mucosal damage, and HIV and STI infections are critical. These types of studies may also provide important information for future clinical trials involving topical microbicides for HIV prevention.

Research on intravaginal practices in Africa has rarely included men or Alengizis, and IVP are strongly influenced by men beliefs and taught by Alengizis. Inclusion of Alengizis and men was essential in exploring the underlying cultural reasons for IVP. Results also suggest that among this small sample of urban Alengizis, all were aware of the health consequences of IVP and all asserted that IVP are no longer part of the material “taught” to young females as they enter adulthood. However, women and men still named Alengizis as the primary counselors teaching IVP. The inclusion of men also provided the knowledge that men expect women to engage in IVP primarily for hygiene and sexuality reasons.

Most women and Alengizis in this study were aware of potential harm of IVP, including STIs and HIV. Women and Alengizis were particularly concerned about the relationship between IVP and cervical cancer. This relationship, although suggested, has not definitively been demonstrated in large epidemiological or clinical studies.^{27–29} In addition, some women felt that IVP could both cause and prevent cervical cancer. Despite these health concerns, women continued to engage in IVP in response to male preferences. Men appeared unaware of any health consequences of IVP and their primary concern regarding discontinuation of IVP was related to the loss of their own sexual pleasure. However, men asserted they would support women to discontinue IVP if IVP were harmful, highlighting the importance of male inclusion in designing IVP interventions. Without men’s understanding of the health consequences of IVP, it may be very difficult to influence this risky behavior.

This study has several limitations: (1) the primary focus was on internal vaginal practices (IVP) that can cause direct damage to the vaginal mucosa, and did not include external vaginal practices or oral ingestion of products; (2) the data obtained from this small sample may not be applicable to other settings such as the rural areas or other regions in Zambia, or other Sub-Saharan regions where IVP are common; (3) the number of focus groups and key informant interviews could have been insufficient to fully address these practices, even in this community, and in particular when addressing male attitudes. Data presented were part of a larger study to develop of a culturally tailored intervention to decrease IVP among women in urban Zambia. It was anticipated that the current data and an intervention could provide a foundation for the design of an IVP-based HIV prevention program for the Zambian community.

The findings of this study have important implications for research, clinical practice, and public health. These qualitative data are extremely valuable as it is the first study assessing men as well as traditional counselors, and suggests that they should be included in studies focusing on vaginal practices in Sub-Saharan Africa. Moreover, results indicate that assessment of IVP is essential in any study in this region involving mucosal immunology and HIV-focused microbicides, as there is a need to clarify the link between IVP, mucosal damage, HIV, and STIs. Finally, this information provides a foundation for the development of culturally-responsive HIV prevention interventions targeting IVP and the amelioration of their use.

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References

1. van de Wijgert JH, Chirenje ZM, Iliff V, et al. Effect of intravaginal practices on the vaginal and cervical mucosa of Zimbabwean women. *J Acquir Immune Defic Syndr* 2000;24:62–67.
2. Anderson MR, McKee D, Yukes J, Alvarez A, Karasz A. An investigation of douching practices in the botanicas of the Bronx. *Culture Health Sexuality* 2008;10:1–11.
3. McClelland RS, Lavreys L, Hassan WM, Mandaliya K, Ndinya-Achola JO, Baeten JM. Vaginal washing and increased risk of HIV-1 acquisition among African women: A 10-year prospective study. *AIDS* 2006;20:269–273.
4. Allen CF, Desmond N, Chiduo B, et al. Intravaginal and menstrual practices among women working in food and recreational facilities in Mwanza, Tanzania: Implications for microbicide trials. *AIDS Behav* 2010;14:1169–1181.
5. Tsai CS, Shepherd BE, Vermund SH. Does douching increase risk for sexually transmitted infections? A prospective study in high-risk adolescents. *Am J Obstet Gynecol* 2009;200:e31–e38.
6. Hilber AM, Chersich MF, van de Wijgert JH, Rees H, Temmerman M. Vaginal practices, microbicides and HIV: What do we need to know? *Sex Trans Inf* 2007;83:505–508.
7. Hilber AM, Francis SC, Chersich M, et al. Intravaginal practices, vaginal infections and HIV acquisition: Systematic review and meta-analysis. *PloS One* 2010;5:e9119.
8. Low N, Chersich MF, Schmidlin K, et al. Intravaginal practices, bacterial vaginosis, and HIV infection in women: Individual participant data meta-analysis. *PLoS Med* 2011; 8:e1000416.
9. Cu-Uvin S, Hogan JW, Caliendo AM, Harwell J, Mayer KH, Carpenter CC. Association between bacterial vaginosis and expression of human immunodeficiency virus type 1 RNA in the female genital tract. *Clin Infect Dis* 2001; 33:894–896.

10. Fethers KA, Fairley CK, Hocking JS, Gurrin LC, Bradshaw CS. Sexual risk factors and bacterial vaginosis: A systematic review and meta-analysis. *Clin Infect Dis* 2008;47: 1426–1435.
11. Farquhar C, Mbori-Ngacha D, Overbaugh J, et al. Illness during pregnancy and bacterial vaginosis are associated with in-utero HIV-1 transmission. *AIDS* 2010;24:153–155.
12. Gafos M, Mzimela M, Sukazi S, Pool R, Montgomery C, Elford J. Intravaginal insertion in KwaZulu-Natal: Sexual practices and preferences in the context of microbicide gel use. *Culture Health Sexuality* 2010;12:929–942.
13. Turner AN, Morrison CS, Munjoma MW, Moyo P, Chipato T, van de Wijgert JH. Vaginal practices of HIV-negative Zimbabwean women. *Infect Dis Obstet Gynecol* 2010; 2010.
14. Priddy FH, Wakasiaka S, Hoang TD, et al. Anal sex, vaginal practices, and HIV incidence in female sex workers in urban Kenya: Implications for the development of intravaginal HIV prevention methods. *AIDS Res Human Retroviruses* 2011;27:1067–1072.
15. Alcaide ML, Mumbi M, Chitalu N, Jones D. Vaginal cleansing practices in HIV infected Zambian women. *AIDS Behav* 2013;17:872–878.
16. Scorgie F, Kunene B, Smit JA, Manzini N, Chersich MF, Preston-Whyte EM. In search of sexual pleasure and fidelity: Vaginal practices in KwaZulu-Natal, South Africa. *Culture Health Sexuality* 2009;11:267–283.
17. Report ZC. Zambia Country Report 2008.
18. Mbikusita-Lewanika M, Stephen H, Thomas J. The prevalence of the use of 'dry sex' traditional medicines, among Zambian women, and the profile of the users. *Psychol Health Med* 2009;14:227–238.
19. NVIVO8. NVivo qualitative data analysis software; QSR International Pty Ltd. Version 10, 2018. 2008.
20. Francis SC, Baisley K, Lees SS, et al. Vaginal practices among women at high risk of HIV infection in Uganda and Tanzania: Recorded behaviour from a daily pictorial diary. *PloS One* 2013;8:e59085.
21. McKee MD, Baquero M, Anderson MR, Alvarez A, Karasz A. Vaginal douching among Latinas: Practices and meaning. *Maternal Child Health J* 2009;13:98–106.
22. McKee D, Baquero M, Anderson M, Karasz A. Vaginal hygiene and douching: Perspectives of Hispanic men. *Culture Health Sexuality* 2009;11:159–171.
23. Menard J, Kobetz E, Diem J, Lifleur M, Blanco J, Barton B. The sociocultural context of gynecological health among Haitian immigrant women in Florida: Applying ethnographic methods to public health inquiry. *Ethnicity Health* 2010;15:253–267.
24. Hull T, Hilber AM, Chersich MF, et al. Prevalence, motivations, and adverse effects of vaginal practices in Africa and Asia: Findings from a multicountry household survey. *J Womens Health* 2011;20:1097–1109.
25. Blythe MJ, Fortenberry JD, Orr DP. Douching behaviors reported by adolescent and young adult women at high risk for sexually transmitted infections. *J Pediatr Adolesc Gynecol* 2003;16:95–100.
26. Koblin BA, Mayer K, Mwatha A, et al. Douching practices among women at high risk of HIV infection in the United States: Implications for microbicide testing and use. *Sex Trans Dis* 2002;29:406–410.
27. Chu TY, Hsiung CA, Chen CA, et al. Post-coital vaginal douching is risky for non-regression of low-grade squamous intraepithelial lesion of the cervix. *Gynecol Oncol* 2011;120:449–453.
28. Sun CA, Hsiung CA, Lai CH, et al. Epidemiologic correlates of cervical human papillomavirus prevalence in women with abnormal Pap smear tests: A Taiwan Cooperative Oncology Group (TCOG) study. *J Med Virol* 2005;77:273–281.
29. Zhang J, Thomas AG, Leybovich E. Vaginal douching and adverse health effects: A meta-analysis. *Am J Public Health* 1997;87:1207–1211.

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